

(19) World Intellectual Property Organization
International Bureau



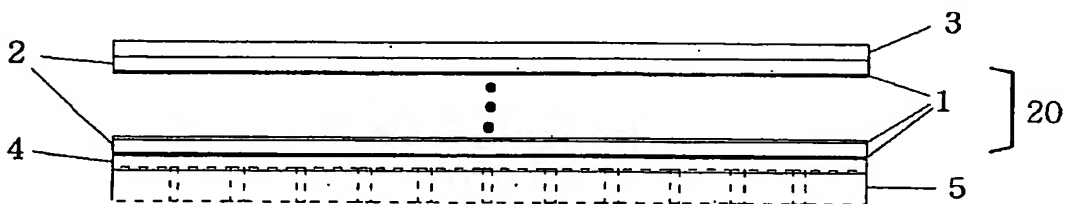
(43) International Publication Date
13 April 2006 (13.04.2006)

PCT

(10) International Publication Number
WO 2006/038754 A1

- (51) International Patent Classification⁷: **G02F 1/1335**
- (21) International Application Number:
PCT/KR2005/000870
- (22) International Filing Date: 25 March 2005 (25.03.2005)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:
10-2004-0078416 1 October 2004 (01.10.2004) KR
- (71) Applicant (for all designated States except US): **SAM-SUNG FINE CHEMICALS CO., LTD [KR/KR]**; 190 Yecheon-Dong, Nam-Gu, Ulsan City 680-090 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **KIM, Seong-Tae [KR/KR]**; 107-810 Hyundai APT, Shinrim-2Dong, Kwanak-Gu, Seoul 151-761 (KR). **YOON, Ki-Cheol [KR/KR]**; 104-1004 Chowon APT, Shinbang-Dong Cheonan City, Chungcheong-Namdo 330-770 (KR). **KIM, Keon-Il [KR/KR]**; 106-1408 EXPO APT, Jeonmin-Dong, Yuseong-Gu, Daejeon-City 305-761 (KR). **JUNG, Jae-Chul [KR/KR]**; 803 Noeun-Nobles, 553-2 Noeun-Dong Yuseong-Gu, Daejeon-City 305-325 (KR).
- (74) Agents: **KWON, Oh-Sig et al.**; 401 Joeeun Leaderstel, 921 Dunsan-Dong, Seo-Gu, Daejeon-City 302-828 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **PRISM-PATTERNED BROADBAND REFLECTIVE POLARIZER FOR LIQUID CRYSTAL DISPLAY**



(57) Abstract: The present invention is related to a method of method of manufacture of a reflective polarizing film that can improve brightness of a liquid crystal display device remarkably by making a liquid crystal film that can over visible light by using cholesteric liquid crystal layers having different selective light-reflection central wavelengths, attaching a quarter wave ($1/4 \lambda$) retardation film on top of the liquid crystal film, and adding prism patterns to the opposite side of the liquid crystal film. The reflective polarizing film of the preset invention is characterized by that two or more cholesteric liquid crystal layers having different selective reflection wavelength regions are laminated in order from a shorter wavelength to a longer wavelength, and brightness of a liquid crystal display device is maximized owing to an integrated film manufactured by attaching a $1/4 \lambda$ retardation film onto cholesteric liquid crystal layers and forming prism patterns onto the opposite side.